

DRAFT SUMMARY OF TRINITY MANAGEMENT COUNCIL FY 2002 TRINITY RIVER FUNDING RECOMMENDATIONS
WITH HIGH AND MEDIUM RANKED TASKS, WITHOUT BALANCED BUDGET

TOTAL BUDGET AVAILABLE:	\$10,150,000
TOTAL BUDGET ALLOCATED:	\$10,139,850
BALANCE:	\$10,150

INFRASTRUCTURE/IMPLEMENTATION

Task #s	Task description	Priority	Estimated cost	NOTES
I-1	Office Space, furniture, vehicles, phones, desktop computers, GIS/CAD computers and hardware	High	\$140,000	Recurring and Non-recurring costs
I-2	Staff relocation costs	High	\$150,000	\$15k per person, 10 persons
I-3	Hire executive director, assistant, FACA charter costs	High	\$200,000	From Implementation Plan
I-4	AEAM contingency fund, Executive Director discretionary funds	High	\$200,000	New, needed for contingency (may be too small)
I-5	Scientific Review Board and External Review committees (to potentially participate in RFP evaluations and technical workshops)	High	\$50,000	Get advisory boards started, potentially some overlap with technical workshop funding
I-6	Technical Modeling and Analysis Group staff	High	\$164,250	Assume 1/2 FTE for leader, 1/4 FTE for staff
I-7	Rehabilitation and Implementation Group staff	High	\$155,000	Assume 1/2 FTE for leader, 1/4 FTE for staff
I-8	Administration: USBR	High	\$150,000	From FY 2001
I-9	Administration: HVT	High	\$150,000	From FY 2001
I-10	Administration: YT	High	\$150,000	From FY 2001
I-11	Administration: USFWS	High	\$150,000	From FY 2001
I-12	Administration: USFS	High	\$0	From Ad-Hoc group budget
I-13	Administration: BLM	High	\$125,000	New, assumes more effort for bank rehab work
I-14	Administration: Trinity County	High	\$25,000	From Ad-Hoc group budget
I-15	Administration: CDFG	High	\$190,000	Transferred admin costs from adult wiers
I-16	Administration: DWR	High	\$0	State in-kind services
I-16	Administration: NMFS	High	\$0	From Ad-Hoc group budget
I-17	Prepare RFP's for FY 2003	High	\$50,000	New, needed for FY 2003 process
I-18	Preparation of SEIS	High	\$1,000,000	From USBR, must include water year evaluation (Task NH-4)
I-19	Bridge replacement (assume 1 of 4 bridges will be replaced in FY 2002, design for all)	High	\$1,500,000	Assume 1 bridge replaced in FY 2002, includes permitting
I-20	Floodplain structure relocation (assume portion done in FY 2002)	Medium	\$50,000	Assume portion done in FY 2002
I-21	Short-term coarse sediment transfusion (16,000 cu yds)	High	\$249,600	May save some money if combined with I-22
I-22	Rush Creek delta coarse sediment removal: Design and permitting	Medium	\$80,000	Could combine with I-21
I-23	Environmental documentation, surveys, permitting: Bridges	High	\$0	Discussed with USBR
I-24	Environmental documentation, surveys, permitting: Gravel processing and placement	High	\$40,000	Discussed with USBR
I-25	Environmental documentation, surveys, permitting: 24 bank rehabilitation sites	High	\$400,000	Discussed with USBR, done to put three years worth of projects "on the shelf"
I-26	Mechanical rehabilitation implementation	Medium	\$0	Assume implementation done in FY 2003, design/data collection done in Task I-28
I-27	Agency, Tribe, Consultant participation in channel rehab subcommittee	High	\$80,000	Need to resolve w/respect to agency/tribe overhead, is useful for non-agency participation
I-28	Bank rehabilitation data collection and design work for 16 projects	High	\$500,000	Done to put two years worth of projects "on the shelf" (600-100 in-kind services)
I-29	Long-term coarse sediment supplementation	Low	\$0	Done after high flows are allocated
I-30	Long-term fine sediment catchment pond monitoring and maintenance	High	\$150,000	Put money in "bank" for rapid excavation in case of large storm event(s)
I-31	Watershed restoration/Trinity County Grant Program	Medium	\$200,000	Implement watershed restoration program, provide funds through Trinity County Grant Program, AEAM workshop did not address this other than to recommend an outside+inside review of effectiveness of watershed restoration work. Good for matching funds on other grant applications.
I-32	Flow schedule adjustments to meet various criteria (temperature, bed scour, maintenance of floodplain water table, etc)	Low	\$0	No high flows yet

SUBTOTAL: \$6,298,850

NON-HYPOTHESIS BASED TASKS

Task #s	Task description	Priority	Estimated cost	NOTES
NH-9, NH-3	Define River Migration Zone that incorporates likely future migrational paths of the river, as well as integrates 100 year inundation info provided by DWR hydraulic study. Potentially apply channel migration model in combination of historical channel analysis to delineate potential future channel migration and inundation areas to assist Trinity County Planning Dept and help define the lateral boundaries of biological inventories/studies	High/Medium	\$200,000	Started by DWR in FY 2001, needs to be completed in order to define river corridor to keep new human encroachment/damage, assist biology monitoring to define "river corridor" to define lateral monitoring boundaries. Must evaluate lateral movement as well as inundation.
NH-4	Evaluate/refine water year classification protocol with DWR/USBR, take historical perspective to evaluate potential bias, revise method for determining water year classification for yearly instream release, conduct informal workshop to discuss, prepare technical memo that summarizes improved water year classification process.	High	\$0	Water year classification bias slipped through ROD, need to fix. Add to SEIS scope.
NH-5	Generate baseline digitally orthorectified aerial photograph from Lewiston Dam to NF Trinity River, Color stereo pairs at 1:4800 scale, ideally taken in November during high overcast day to reduce shadow effect and when leaves are off trees, digitally orthorectify photos in a manner similar to Clear Creek, use as restoration program GIS basemap	High	\$350,000	Use as beginning of project baseline, use for upper river GIS basemap to overlay historical and future information, provides out of channel topography for modeling and potentially channel design work.
NH-7	Public involvement to educate about channel rehabilitation projects, meeting attendance, on-the ground meetings with landowners, poster sessions at technical conferences, informational summary "fact sheets" to summarize studies and restoration actions	High	\$75,000	Multiple agency involvement
NH-8	Develop central GIS at AEAM center, compile data, and develop informational web site. Gather historic data from KRIS and other sources, convert to common coordinate system and data format, develop metadata for all information, set up new system, write guidelines for all future data gathering contracts. Hardware costs include in Task I-1	Medium	\$120,000	Need to have central location where AEAM technicians have continual access to data (as well as free access by other agencies/public), would include 25 for RCD, 13 for Yurok, 20 for AEAM, 62 for HVT
NH-10	Develop overall sampling/monitoring strategy for restoration program, conduct workshop of internal and external experts, potentially combine with habitat complexity workshop (FH-1), prepare document summarizing experimental design, Must do by November to be useful	Very High	\$40,000	Multiple agency/stakeholder/scientific involvement
SUBTOTAL:			\$785,000	

GEOMORPHIC/HYDRAULIC TASKS

Task #'s	Task description	Priority	Estimated cost	NOTES
G1-1	Quantify sediment contribution at Deadwood, Rush, and Indian creeks by measuring streamflows, Helley-Smith bedload sampling, spot suspended sediment sampling, tributary delta topographic surveying, Hamilton Ponds topographic surveying, resulting in computations of total sediment yield from tributaries. Add turbidity monitoring probes to gaging stations at tributaries.	High	\$184,000	Continued from previous years
G1-1, G2-4	Quantify sediment contribution at Grass Valley by measuring streamflows, Helley-Smith bedload sampling, and spot suspended sediment sampling, resulting in computations of total sediment yield from Grass Valley Creek. Add turbidity monitoring probe to gaging station.	High	\$45,000	Need to determine if USGS sediment sampling should be discontinued, and whether to move gaging station to a downstream location
G1-1	Quantify streamflows at Weaver Creek, Reading Creek, Browns Creek, Canyon Creek, and NF Trinity River. Add turbidity monitoring probes to gaging stations at tributaries.	Medium	\$75,000	
G1-3	Refine and calibrate existing hydraulic and sediment transport model, evaluate prepare proposed future modeling approach, send out for external peer review, incorporate comments into a new study plan for FY 2003	Medium	\$0	Continued from previous years, needs to take a more thorough review based on initial model runs and evaluation of Rush Creek Delta
G1-5	Build from HVT/TCRCD reconnaissance gravel management plan work funded in FY 2001 to: 1) develop gravel introduction methods, 2) develop designs for gravel intro equipment, 3) work with landowners in Gold Bar reach to acquire/purchase tailings, and begin planning for additional gravel introduction sites	High	\$80,000	Need to develop an efficient gravel introduction program that allows in-channel placement, removal of ugly dredger tailings, and restoration of these dredger tailing areas as revegetated floodplains/wetlands.
G1-6	Take topographic data from 2001 Rush Creek and Indian Creek delta surveys, develop potential gravel excavation designs, evaluate whether sedimentation ponds are necessary w/respect to future flow regime, implement Rush Creek project in FY 2002 (but funded under Task I-22).	Medium	\$0	Partner with Task G1-3 to help evaluate whether mainstem flows are capable of transporting tributary derived coarse sediments, develop alternative means if necessary
G2-1	Collect topography at first 16 bank rehab sites, develop designs, attend meetings, hydraulic modeling, design documentation, develop monitoring plans (but no monitoring)	High	\$0	Cost included in Task I-27
G2-2, G2-3	Geomorphic baseline monitoring at 8 of 16 bank rehabilitation sites. Channel geometry will be performed by Task I-27. This task would include geomorphic monitoring that would aid biological pre-construction survey, particle size sampling, development of complexity measures at 8 of the 16 sites, as well as the 4 control sites	Medium	\$40,000	This goes beyond the topographic baseline data that the design effort would collect, could be deferred until WY 2003, includes 4 of the 9 original sites
G2-4	Maintain existing gaging stations at Limekiln Gulch, Douglas City, Junction City	High	\$45,000	Continued from previous years
G2-4	Maintain existing gaging stations at Lewiston and Burnt Ranch	High	\$30,000	Continued from previous years, move Lewiston Dam gage to USBR O&M
G3-2	Review all watershed rehabilitation activities, evaluate with respect to fine sediment reduction, successes/failures, costs, and other measures (e.g., sedimentation basins)	Medium	\$20,000	New, need evaluation of program and direction for future.
G3-3	Identify index reaches where fine sediment storage can be tracked with time, including that stored in pools, banks, spawning gravels, etc., to develop and track an index of fine sediment storage to evaluate effectiveness of fine sediment reduction efforts	Medium	\$0	Trend monitoring to determine if fine sediment storage in different features (pools, riffles, spawning gravels, berms) is being reduced
SUBTOTAL:			\$519,000	

RIPARIAN/WILDLIFE TASKS

Task #s	Task description	Priority	Estimated cost	NOTES
RW3-1, RW2-1, NH-1, NH-2	Conduct 2-day workshop with local and external experts to develop list of key indicator species for monitoring (wildlife, birds, amphibians, riparian vegetation), and develop sampling strategy for each species	High	\$35,000	WORKSHOP
RW3-2, RW3-4, RW3-5	Monitor riparian vegetation transects: 1) establish pre-construction conditions at 8 of the 16 proposed bank rehab sites (control sites not needed), 2) monitor seed dispersal and peak density timing for key riparian vegetation species identified in RW3-1, 3) continue monitoring single transect riparian vegetation establishment at four of the existing bank rehabilitation sites, install piezometers and soil moisture probes to track water table fluctuations.	High	\$75,000	Documents existing conditions at future bank rehabilitation sites, continues riparian monitoring at four existing sites. Air photo in Task NH-5 will provide remote monitoring at remaining bank rehabilitation sites.
RW3-6	Develop (or refine USGS's model), calibrate, and test the box recruitment model to predict recruitment at four existing bank rehabilitation sites, also making the model available for future bank rehab site topographic design and monitoring	High	\$30,000	USGS in Ft. Collins has model, John Bair has portion of model, need to finish development and refinement of model for use in FY 2003
RW5-1, RW5-2, RW5-3	Conduct baseline monitoring for amphibian and reptiles at 8 of the 16 proposed bank rehabilitation sites and the four control sites. Must go beyond inventory, and: 1) identify where, when, how long at each site; 2) develop hypotheses about how proposed construction activities, bank rehabilitation, flow release schedule, and water temperatures will affect these species; and 3) integrate with proposed bank rehabilitation site design effort and development of improved flow release schedules.	High	\$60,000	Hypothesis driven evaluations on top of surveys associated with permitting. Coordination could potentially save some \$\$
RW5-1, RW5-4, RW6-1, RW6-2, RW6-3	Conduct baseline monitoring for target avian species at 8 of the 16 proposed bank rehabilitation sites and the four control sites. Must go beyond inventory, and: 1) identify where, when, how long at each site; 2) develop hypotheses about how proposed construction activities, bank rehabilitation, riparian revegetation, and flow release schedule will affect these species; and 3) integrate with proposed bank rehabilitation site design effort and development of improved flow release schedules.	High	\$60,000	Hypothesis driven evaluations on top of surveys associated with permitting. Coordination could potentially save some \$\$
SUBTOTAL:			\$260,000	

FISH PHYSIOLOGY TASKS

<u>Task #'s</u>	<u>Task description</u>	<u>Priority</u>	<u>Estimated cost</u>	<u>NOTES</u>
FP1-1 FP1-2	Continue monitoring water temperature at formerly specified locations for temperature model (SNTEMP) and use for validation testing in the existing model. Monitor hourly temperatures at specified locations (Stowaways + USBR stations), verify SNTEMP predictions with measurements	High	\$30,000	Continue long-term temperature monitoring and confirm SNTEMP model
FP2-1	Conduct laboratory studies to measure physiological response (e.g. energetics) and performance (e.g. ability to hypoosmoregulate) of steelhead, coho salmon, and chinook salmon SMOLTS exposed to a range of thermal conditions during smoltification. Exposure temperatures to include the thermal targets recommended in TRFE as well as temperatures above and below the recommendations.	High	\$100,000	
FP3-1	Establish timing of fry emergence (coho, chinook, steelhead) at longitudinal sites (thermally variable) in the Trinity River and measure growth of age-0 fish throughout the year. Establish relative density estimates of age-0 throughout the river for development of hypotheses about important areas/reaches of growth and production, coordinate with emigration trap in mainstem near Junction City or North Fork.	High	\$80,000	Periodic electrofishing and/or beach seining to estimate 0+ growth rates in spring/early summer. Does not address 1+ and 2+ growth rates (see Task FP8-1)
FP5-1	Develop a "healthy smolt index" based on literature review and evaluation of Trinity River smolts. Evaluate smolt health during a critically dry year using measures of "smoltability" and general length-weight information collected from the emigrants (steelhead, coho and chinook salmon).	High	\$50,000	Literature review and evaluation of Trinity River smolts to develop criteria for smolt health
FP6-1	Laboratory measure of physiological response of Trinity River origin spring chinook ADULTS to range of thermal conditions that include both above and below existing temperature targets.	Medium	\$70,000	Evaluates effectiveness of temperatures provided by 450 cfs release on adult pre-spawning mortality, and egg incubation by 300 cfs releases in October
FP7-1	Mark fish upriver for capture in lower river traps by using a statistically rigorous design to estimate the transit times of emigrating smolts by marking fish in multiple locations upstream of the screw traps and documenting their recapture in the traps.	Medium	\$20,000	Evaluates smolt travel time in different reaches of the Trinity River
FP8-1	Measure absolute growth of uniquely marked parr (pit-tagged) for predicting 1+ and 2+ growth rates in production models.	Medium	\$0	Coordinate with outmigration trapping effort in FH4-3 and FH4-4, same group should do FP3-1, could be deferred to FY 2003
FP9-1	Workshop of participants at end of year to synthesize of several of the above projects investigating temperature, growth, mortality	Medium	\$10,000	Will also serve as workshop for developing approach for FY 2003
FP10-1	Microhabitat temperature investigation in simplified (riparian berm) and complex (alluvial) channel reaches (Stowaways).	Medium	\$0	Evaluate whether complex channel morphologies are increasing temperature diversity, has implications for amphibians as well. Could be deferred to FY 2003
FP 11-1	Evaluate the biological and economic consequence of releasing fingerlings versus yearlings, evaluate growth and survival performance of these different release strategies		\$50,000	Continuation of work evaluating improvements in hatchery operations
SUBTOTAL:			\$410,000	

FISH HABITAT TASKS

Task #'s	Task description	Priority	Estimated cost	NOTES
FH1-1	Identify and recruit outside experts, conduct workshop - arrange purchase orders for their participation; prepare background materials and send to experts 2 wks prior to workshop; conduct and facilitate workshop; prepare experimental design document	High	\$40,000	WORKSHOP: AEAM workshop recommended that another workshop be held to develop monitoring methods and measures at bank rehabilitation sites to test channel complexity hypothesis. Incorporate SALMOD discussion into this workshop.
FH1-2	Determine habitat quantity, habitat complexity, photo points, and fish use/numbers at 8 proposed sites and 4 control sites for FY 2002, establish photo points at remaining 8 sites.	High	\$250,000	Collect baseline data at proposed bank rehabilitation sites, currently ignores historic bank rehab sites (potentially a problem)
FH2-1	Identify and recruit outside experts to evaluate future fish production modeling approach - arrange purchase orders for their participation; prepare background materials and send to experts 2 wks prior to workshop; conduct and facilitate workshop; come to agreement on model (if any); prepare experimental design/workshop summary document.	Medium	\$0	WORKSHOP: Due to significant disagreement amongst biologists, we recommend that a workshop be held to determine if a production model is needed, and if so, what model is most suited for the Trinity River
FH 2-2	Following workshop, provide funding to re-engage modeling process: data review, data compilation since the Flow Evaluation Study, Develop recommendations for future modeling data needs.	Medium	\$0	Reinitiate model refinement, gather and compile data, make recommendations for FY 2003 data needs
FH3-1	Run-size and harvest estimate through operation of Junction City and Willow Creek weirs. Hatchery/Natural estimation. Reward tags for mark-recovery estimation through angler harvest, hatchery return, etc.	High	\$372,000	Reduction reflects administrative costs arranged for in infrastructure-implementation page
FH3-2	Angler Harvest estimation Klamath Estuary to Coon Cr	Medium	\$65,000	Lower priority due to sport fishery being a lower percentage of overall harvest
FH3-3	Angler Harvest estimation Lower Klamath	Medium	\$0	Delete, lose real-time management, but can get data from wiers
FH3-4	Angler Harvest estimation Weitchpec to Hawkins Bar	Medium	\$72,000	Lower priority due to sport fishery being a lower percentage of overall harvest
FH3-5	Angler Harvest estimation Cedar Flat to Lewiston	Medium	\$0	Delete, lose real-time management, but can get data from wiers
FH3-6	Angler Harvest estimation Spring chinook - Klamath	Medium	\$0	Delete, lose real-time management, but can get data from wiers
FH3-7	Conduct Tribal harvest monitoring survey on lower Klamath River	High	\$150,000	Should pursue cost share with Klamath Program
FH3-8	CWT marking at hatchery	High	\$350,000	
FH3-9	Decode chinook tags recovered at hatchery	High	\$13,000	
FH3-10	Marking hatchery steelhead	High	\$57,000	
FH3-11	Marking hatchery coho salmon	High	\$26,000	
FH3-13	Conduct age composition analysis of scale data (total of 3 proposals for Fall Chinook)	High	\$79,000	
FH4-1	Tributary or reference river escapement and smolt production. Review regional data collection efforts, evaluate field monitoring sites, develop study plan, conduct peer review of study plan	High	\$30,000	This is to track trends in Trinity River escapement and smolt outmigration with another system to reduce variability and evaluate restoration program. Once implemented, should cost share with another program
FH4-2	Carcass Surveys - Lewiston to Cedar Flat to estimate in-river spawning	High	\$30,000	This accomodates carcass surveys in addition to spawning surveys.
FH4-3	Emigration estimation Lower Trinity. Measure response of restoration for the basin in smolt production.	High	\$150,000	High rank interpreted from need for identificaiton of mainstem production
FH4-4	Emigration estimation above North Fork. Measure response of restoration directly below where most channel rehabilitation is expected to occur.	High	\$83,000	Ongoing program, integrates with smolt health (Task FP3-1 and FP5-1)
FH5-1	Conduct spawning surveys from Lewiston Dam to mouth, using 1997 or 2001 orthorectified aerial photographs to map spawning locations (that can be used in GIS)	High	\$100,000	Ongoing program, does not include carcass surveys
SUBTOTAL:			\$1,867,000	

\$140,000
\$150,000
\$200,000
\$200,000

\$50,000
\$164,250
\$155,000

\$25,000

\$45,000

\$45,000

\$75,000

\$45,000

\$30,000

grad student could

ay to evaluate pre-

103

103

\$372,000

\$13,000

\$79,000

\$30,000

\$100,000

\$1,918,250